Five-Year Review Report

Third Five-Year Review Report

for

St. Regis Paper Company Superfund Site

Leech Lake Reservation

Pike Bay Township

Cass County, Minnesota

September 2005

PREPARED BY:

United States Environmental Protection Agency
Region 5
Chicago, Illinois

Approved by:

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Date:

9/28/05

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List of Acronyms

ACA	Ammoniacal copper arsenate
ARAR	Applicable or Relevant and Appropriate Requirement
BNSF	BNSF Railway Company
CFR	Code of Federal Regulations
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COC	Contaminant of Concern
COPC	Contaminants of Potential Concern
EPA	U.S. Environmental Protection Agency
GAC	Granular Activated Carbon
GEOS	Groundwater Evaluation and Optimization System
IP	International Paper
LLB	Leech Lake Band of Ojibwe
LNAPL	Light non-aqueous phase liquid
MEDD	Minnesota Enforcement Decision Document
MPCA	Minnesota Pollution Control Agency
NCP	National Contingency Plan
NPL	National Priorities List
OU	Operable Unit
O&M	Operation and Maintenance
PAH	Polycyclic Aromatic Hydrocarbon
PCB	Polychlorinated Biphenyl

PCDD	Polychlorinated dibenzo-dioxin
PCDF	Polychlorinated dibenzo furans
PCP	Pentachlorophenol
PPB	Parts per Billion
PRP	Potentially Responsible Party
RA	Remedial Action
RAO	Remedial Action Objective
RAL	Removal Action Level
RCRA	The Resource Conservation and Recovery Act
RD	Remedial Design
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
RPM	Remedial Project Manager
TCDD	Tetrachlorodibenzo-p-dioxin
UAO	Unilateral Administrative Order

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Executive Summary

The St. Regis Paper Company Site (the Site) is composed of property located in the City of Cass Lake, Minnesota (Pike Bay Township, Cass County) and at its former city dump (the Dump). The Site is also wholly located within the exterior boundaries of the Leech Lake Band of Ojibwe Indian Reservation. The Site, except for the city Dump, is bordered by lands of the Chippewa National Forest to the south, by Highway 371 to the west, by Pike Bay and its channel to the east, and by the BNSF Railroad to the north. The Dump is located between the portion of the Chippewa National Forest directly south of the City of Cass Lake and Fox Creek.

The St. Regis Paper Company Site is a former wood-treating facility. The Site was listed on the National Priorities List (NPL) of CERCLA in 1984 due to soil and groundwater contamination related to wood-treating chemicals including creosote, pentachlorophenol, and copper arsenate salts. The St. Regis Paper Company also disposed of wood-treating wastes in a pit located at the Dump. In 1985, then owner Champion International (Champion) closed the wood-treating facility and signed two Response Orders by Consent under the Minnesota Environmental Response and Liability Act of 1983 (Consent Orders) with the Minnesota Pollution Control Agency (MPCA). One order was applicable to the wood-treating facility and the second order was applicable to the Dump. The MPCA issued two Minnesota Enforcement Decision Documents (MEDDs) in 1986 for Champion to: 1) extend the City of Cass Lake municipal water supply to nearby residents, 2) construct an on-site containment vault to dispose of visibly contaminated soil excavated from the wood-treating facility and Dump, and 3) to construct a groundwater extraction and treatment system for both the wood-treating facility and the city Dump area. Champion carried out work described by the MEDDs and the groundwater extraction and treatment systems have operated continuously since their completion in 1988. Beginning in 1986, annual groundwater and surface water monitoring was implemented at the Site. This monitoring has continued on an annual basis since that time.

Five-Year Reviews were conducted in 1995 by the MPCA and again in 2000 by EPA. The 1995 review recommended: 1) an evaluation of the groundwater extraction and monitoring system including at least one additional monitoring well, 2) an ecological risk evaluation, 3) confirmatory soil sampling due to a lack of information from the remediation, and 4) an update of the water quality standards used in the remediation. The 2000 review recommended: 1) an update of water quality standards, 2) a field investigation of soil, sediment, surface water, and groundwater, and 3) again recommended at least one additional monitoring well. The two previous 5-Year Reviews stated that the groundwater extraction/containment systems present at the Site will remain protective of public health and the environment with the implementation of the new water quality standards. Both reviews withheld judgment on the protectiveness of the remedy, with respect to on-site soil, pending soil, sediment, and surface water sampling results.

Based on subsequent sampling conducted at the Site in 2001 and 2003, the remedy was determined not to be protective regarding on-site soils. Samples taken in several media, including soil, sediment, and fish tissue, were above screening levels, requiring full baseline

human health and ecological risk assessments. Soil concentrations for dioxin in excess of EPA's removal action level of 1 part per billion (ppb) were revealed in the shallow soil of several areas of the Site. One such area was located across a dirt road from a day-care provider. Removal actions with regard to the soil began in 2004 and continue. Because the removal actions are unfinished and a large portion of the most contaminated area is not fenced, the remedy, with regard to soil, is still not protective of human health or the environment.

In-house residential dust sampling, conducted in 2004 as part of the human health risk assessment, showed exceedences of contaminant screening levels for several residential properties located near/adjacent to the site. EPA is preparing an interim Record of Decision (ROD) to address the contaminated residential house dust. Further evaluation of sampling data collected as a part of the human health risk assessment as well as an ecological risk assessment is ongoing. The results will be part of a supplement to this Five-Year Review to be issued when those results are available later this calendar year.

A recent review of the groundwater extraction and monitoring system by EPA (2005) shows that the extraction system has not always been operating to design specifications, allowing possible contaminant bypass toward nearby Pike Bay. Pumping rates of certain wells will need to increase to ensure complete capture of the contaminant plume. In addition, the review confirmed that additional monitoring wells are needed to accurately monitor the extent of the contaminant plume. Once these modifications are made, the protectiveness of the groundwater remedy will be able to be determined.

Finally, an update to the treated water discharge criteria and monitoring was developed by EPA with the assistance of the Leech Lake Band of Ojibwe (LLB) and MPCA, and delivered to International Paper (IP), successor to Champion, in August 2005. When implemented, the update will fulfill the requirements of the 1995 and 2000 Five-Year Reviews to update the discharge criteria to current standards.

Five-Year Review Summary Form

Site IDENTIFICATION

Site name *(from WasteLAN)*: St. Regis Paper Company Site

EPA ID *(from WasteLAN)*: MND057597940

Region: 05	**State:** MN	**City/County:** Cass County

Site STATUS

NPL status: ☒ Final ☐ Deleted ☐ Other (specify) _____

Remediation status (choose all that apply): ☐ Under Construction ☒ Operating ☐ Complete

Multiple OUs?* ☒ YES NO ☐	**Construction completion date:**

Has Site been put into reuse? ☐ YES ☒ NO

REVIEW STATUS

Lead agency: ☒ EPA ☐ State ☐ Tribe ☐ Other Federal Agency _____

Author name: Timothy J. Drexler

Author title: Remedial Project Manager	**Author affiliation:** U.S. EPA, Region 5

Review period:** 10 / 30 / 2004 to 09 / 30 / 2005

Date(s) of Site inspection: multiple inspections

Type of review:

☐ Post-SARA ☒ Pre-SARA ☐ NPL-Removal only
☐ Non-NPL Remedial Action Site ☐ NPL State/Tribe-lead
☐ Regional Discretion

Review number: ☐ 1 (first) ☐ 2 (second) ☒ 3 (third) ☐ Other (specify) _____

Triggering action:

☐ Actual RA OnSite Construction at OU #____ ☐ Actual RA Start at OU#____
☐ Construction Completion ☒ Previous Five-Year Review Report
☐ Other (specify) _____

Triggering action date *(from WasteLAN)*: 09 / 29 / 2000

Due date *(five years after triggering action date)*: 09 / 29 / 2005

* ["OU" refers to operable unit.]
** [Review period should correspond to the actual start and end dates of the Five-Year Review in WasteLAN.]

Five-Year Review Summary, continued

Issues:

1. Removal of contaminated Site soils over RAL.

2. Improvement needed in operation of groundwater extraction system to meet design specifications and placement of additional groundwater monitoring wells

3. Update of Site O&M plan for treated groundwater effluent discharge and its long term monitoring to bring them in line with current water quality standards.

4. Potential additional remedial action based on results of human health risk assessment

5. Potential additional remedial action based on results of ecological risk assessment

6. Remediation of homes impacted by site-related contaminated house dust

7. Improve institutional controls including abandoned well closure and drilling exclusion area over contaminated groundwater and providing protections from contaminated soil exposure.

Recommendations and Follow-up Actions:

1. EPA will ensure the removal of contaminated soils over RALs.

2. EPA will ensure that groundwater extraction and monitoring system updates and/or modifications to the current system are implemented.

3. EPA will ensure that revised discharge and monitoring standards, developed with LLB and MPCA to conform with current water quality standards and guidelines, are implemented.

4. EPA, with Agency Partner support, will ensure that additional removal and/or remedial actions are performed, if necessary, based on the results of the human health risk assessment conducted by the responsible party under a Unilateral Administrative Order from EPA. Results are expected to be finalized during 2005.

5. EPA, with Agency Partner support, will ensure that additional remedial actions are performed, if necessary, based on the results of the ecological risk assessment conducted by the responsible party under a Unilateral Administrative Order from EPA. Results are expected to be finalized during 2005.

6. EPA has proposed a plan for an Interim Record of Decision regarding remedial actions that

will be taken pertaining to contaminated house dust found in nearby homes as a result of human health risk assessment sampling.

7. EPA, with Agency Partner support, will develop and implement an institutional control plan to prevent exposure to Site-related contaminated soil and groundwater.

Protectiveness Statement:

The remedy continues to be protective with regard to drinking water due to the connection of City of Cass Lake residents to municipal water. The remedy also continues to be protective regarding the RCRA sub-Title C Vault. The protectiveness of the site groundwater remedy could not be determined because the required modifications have not yet been implemented. The remedy is not protective of human health with regards to site soil. Surface soil contamination exceeds Removal Action Levels (RALs) in some on-site areas and there are insufficient institutional controls to prevent human exposure. House dust contamination has been detected in living areas of homes and no controls are in place to prevent human exposure. Also, additional information from the ongoing human health and ecological risk assessments is needed to determine if there are any other human health protectiveness issues. Likewise, the ecological risk assessment results are needed in order to determine the protectiveness of the remedy to ecological receptors. This statement will be updated in a supplement to this 5-Year Review after that information is available later this calendar year.

Long-term Protectiveness:

The long-term protectiveness of the soil remedy is dependent upon the continued removal of contaminated soil begun in 2004 and any other actions that may be necessary based on the results of the risk assessments. The long-term protectiveness of the groundwater remedy cannot be determined until modifications to the system are completed. In addition, adequate institutional controls are necessary to prevent contact with contaminated soil and groundwater. Some known abandoned water wells need to be plugged and a drilling exclusion zone needs to be established in the plume area. Extraction effectiveness will be verified by continued monitoring of the groundwater including modifications as needed, and analyzing the extent of the wellfield capture zone. The groundwater pump and treat portion of the remedy is expected to be protective of human health and the environment once groundwater cleanup standards are attained. Additional statements on long-term protectiveness may be added pending the results of the risk assessments.

Other Comments:

A final determination on protectiveness of the remedy will be made in a supplement to this document after the human health and ecological risk assessments of the Site, due later this year, are completed.

Five-Year Review Report

I. Introduction

The purpose of this five-year review is to determine whether the remedy at the St. Regis Paper Company Site (the Site) is protective of human health and the environment. The methods, findings, and conclusions of reviews are documented in Five-Year Review reports. In addition, Five-Year Review reports identify issues found during the review, if any, and recommendations to address them.

The Agency is preparing this five-year review pursuant to CERCLA §121 and the National Contingency Plan (NCP). CERCLA §121 states:

> *If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the Site, the President shall review such remedial action no less often than each five years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented. In addition, if upon such review it is the judgment of the President that action is appropriate at such Site in accordance with section [104] or [106], the President shall take or require such action. The President shall report to the Congress a list of facilities for which such review is required, the results of all such reviews, and any actions taken as a result of such reviews.*

The agency interpreted this requirement further in the National Contingency Plan (NCP); 40 CFR §300.430(f)(4)(ii) states:

> *If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the Site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five years after the initiation of the selected remedial action.*

The United States Environmental Protection Agency (EPA) Region 5 has conducted this five-year review of the remedial actions implemented at the St. Regis Paper Company Site in the City of Cass Lake within Cass County, Minnesota. This review was conducted from October 2004 through September 2005. This report documents the results of the review. EPA was assisted in the review of the St. Regis Site by the Leech Lake Band of Ojibwe (LLB) and the Minnesota Pollution Control Agency (MPCA).

This is the third five-year review for the St. Regis Paper Company Site. The triggering action for this review is the date of the second five year review, as shown in EPA's WasteLAN database: 09/29/00. This five-year review is required by the fact that hazardous substances, pollutants, or contaminants remain at the Site above levels that allow for unlimited use and unrestricted exposure. This document will become part of the St. Regis Paper Company Site file and it will be placed into the Site information repositories located at the City of Cass Lake Public Library, the Leech Lake Band of Ojibwe, the Minnesota Pollution Control Agency, the Leech Lake Tribal College, the Cass Lake City Clerk's Office, and the Bemidji State University Library.

II. Site Chronology

Table 1: Chronology of Site Events

Event	Date
Initial discovery of problem or contamination	1977
Proposed to NPL	1983
MPCA Request for Response Action	04/1984
NPL listing	09/1984
MPCA Response Orders by Consent	02/26/1985
Remedial Investigation/Feasibility Study	01/03/1985-07/29/1986
Minnesota Enforcement Decision Document, OU's 1, 2, 3	03/05/1986
Minnesota Enforcement Decision Document, OU 3	07/29/1986
Remedial Action Start	01/07/1987
First Five-Year Review-MPCA	03/27/1995
EPA Unilateral Administrative Order for O&M	01/24/1995
Second Five-Year Review-EPA	09/29/2000
EPA Unilateral Administrative Order for Sampling	07/24/2003
EPA Unilateral Administrative Order for Soil Removal	12/17/2003
EPA Unilateral Administrative Order for Risk Assessments	08/11/2004
Settlement Agreement and Admin. Order for Soil Removal	8/25/2005
Current Five-Year Review Site Inspection	multiple
Next Five-Year Review	09/30/2010
Issuance of Proposed Plan for Interim Action for House Dust	06/2005
Public Meeting regarding Interim Action for House Dust	06/2005

III. Background

Physical Characteristics The Site, comprised of approximately 163 acres, is located on the south side of the City of Cass Lake, Minnesota, wholly within the exterior boundaries of the Leech Lake Reservation. The former operations area (Operations Area) near the BNSF railroad is a relatively flat lowlying open field adjacent to residential housing. Approximately 20 acres of this area, containing the groundwater treatment facility, is still owned by International Paper (IP), one of the responsible parties, and is fenced. The southwest area lies further to the south, contains the RCRA vault, is fenced and is also owned by IP (Southwest Area). The Dump area lies in a hilly wooded area just south of the Chippewa National Forest and north of a steep grade leading to the Fox Creek wetland. The Operations Area was used for treatment and storage of treated wood. Ponds containing wastewater and sludge from the operation were located in the Operations Area. A pit was located in the Dump where waste oil, water, and sludge were disposed of and periodically burned. There are about 40 homes adjacent to the Site, with the nearest residences located across a dirt street from the former Operations Area. All homes in the area are served by municipal water. A Site map is provided as Attachment 1.

The Site lies on a northeast-southwest trending pitted outwash plain. Surface water bodies include Pike Bay and Cass Lake to the east and northeast respectively, and a channel connecting the two lakes and into which the treated groundwater is discharged. Wetlands are located east of the Site and south and east of the Dump area.

The Site is located in an area of glacial moraines and outwash plains that border the southern extent of ancient glacial Lake Agassiz. Quaternary geology consists of till plains and outwash sand. Gravel deposits are predominant in the region. These glacial sediments were likely deposited during the late Wisconsinan stage of Pleistocene glaciation. The total thickness of the unconsolidated glacial sediments is reported to be about 400 feet (Oakes and Bidwell 1968). Underlying the unconsolidated glacial deposits is bedrock consisting of subcropping, Pre-Cambrian crystalline granites, greenstones, and schists. The glacial deposits and recent geologic deposits that overlie the bedrock contribute to the topographic relief that is characterized in the region as flat to gently rolling, consisting of low-lying bogs and lakes (Oakes and Bidwell 1968).

The City of Cass Lake is at an elevation of approximately 1330 ft above mean sea level. The topography in the St. Regis Paper Company Site vicinity has little relief; and, although the surficial soils are sandy, surface water ponds in several areas on the site in the spring and after heavy rainfalls. Portions of the Operations Area had greater relief prior to conducting remedial activities in this area. Grading of the surface soil was conducted after the remedial activities and prior to the 2001 and 2003 sampling.

The topography in the Dump vicinity suggests that a complex series of minor ice lobes and/or isolated ice blocks dominated the landscape during the final stages of glaciation in the area. Pike Bay and many embayments of Cass Lake appear to be the remnants of the mass wasting of

stagnant ice blocks. The Fox Creek valley may have been formed by a relatively small ice lobe, based on the adjacent hummocky terrain and the associated moraine located northeast of the site.

The hydrogeology of the Site consists of an upper and lower aquifer. The upper aquifer is an unconfined aquifer recharged directly by precipitation infiltration. The surface of the saturated zone is located about 10 to 15 feet below ground surface at the Site. The dominant direction of groundwater flow in the upper aquifer at the Operations Area is west to east toward the channel connecting Pike Bay to Cass Lake. Groundwater flow in the upper aquifer at the Dump is southeast toward Pike Bay and Fox Creek. Groundwater flow direction in the lower aquifer is similar to the upper aquifer.

Land and Resource Use The St. Regis Site is located wholly within the exterior boundaries of the Leech Lake Indian Reservation next to the Chippewa National Forest. The largest employers in Cass County are Indian gaming, Tribal government, Federal government, local government, and retail trades. Land in the Site vicinity is commercial and residential. The land contains forests, wetlands, and large water bodies. Lakes and channels in the Site area are used by local and regional residents and tourists for recreation. Some parts of the Site area are also used by local residents, including members of the LLB, as a source of subsistence hunting, growing/gathering and harvesting of game and plants including wild rice.

History of Contamination The St. Regis Paper Company Site was operated from 1957 to August 1985 as a wood-treating facility. Chemicals used in wood-treating processes changed as the facility evolved. Creosote was used in wood treatment from the beginning of operations. Pentachlorophenol (PCP) was added to the process around 1960. Both chemicals were used at the Site until the facility closed. PCP was generally combined with a carrier solvent, usually No. 2 fuel oil. This combination, when present as a free phase product in the groundwater, tends to float. In latter years of facility operations, a water dispersible PCP concentrate, which was a proprietary mixture of PCP and ketone, was used. The PCP concentrate, denser than water, sinks if present as a free phase product in the groundwater. Soluble metal salts were used for a short period of time starting in 1969. Specifically, available information indicates a second treatment cylinder was added in 1969 and used until 1972 for treatment with ammoniacal copper arsenate (ACA). The active ingredients in ACA were copper (II) oxide and arsenic pentoxide. In 1972, the second treatment cylinder was converted into an expansion tank for the creosote treatment cylinder and another cylinder was added for treatment with ACA and pentachlorophenol.

The generation of wastewater began at the facility in 1957 when a 72-inch diameter by 75-foot long pressure cylinder was installed in the wood treating plant in the north central portion of the Site. Creosote was used as the wood treating chemical during the early years of facility operation. Wastewater discharged from the cylinder passed through a baffled separator tank and a charcoal filter before being discharged to a disposal pond located adjacent to the treating plant, Pond A (See Attachment 1).

In 1960, a 49-foot long extension was added to the original cylinder. The use of PCP as a treating chemical began about this time. Two underground tanks were added to further separate the water from the oil in the discharge. Beginning in about 1960, wastewater was discharged to a series of three ponds, collectively called Pond B.

In 1969, a second cylinder was added to treat wood with ACA. The small amount of water that was routinely generated when the water soluble preservatives were used was returned as makeup water for preparing the treating solution; however, some cylinder wash water was discharged to the disposal ponds.

In mid-1971, the series of three disposal ponds were covered with sand and replaced with a new pond, Pond C. In 1972, the cylinder that had been used for treating wood with ACA was added as an expansion tank to the original cylinder and a new 72-inch diameter by 150-foot long cylinder was added for treating wood with PCP and ACA. In addition, a 20,000 gallon underground wastewater separation tank was added for each cylinder.

Improvements were made to the wastewater treatment system in 1974. With these improvements, wastewater from each cylinder was carried to a primary separating tank which was approximately 8 feet in diameter and 40 feet long. The oil that accumulated on top of the wastewater was skimmed and returned to the process. Water from the primary tank was pumped to a mixing station where a flocculating agent was added. The mixture was then pumped to a second tank for settling. Water was pumped from this tank through a sand filter and carried through the pipe to a sawdust filter located adjacent to Pond C.

Water from Pond C was used to spray-irrigate grass directly south of Pond C in 1977 and in the Southwest Area in 1980. Pond C was also dredged on one occasion, and the dredged bottom material was placed on the southeast and north sides of the pond. From about 1980 until the end of operations at the Site in 1985, process wastewater was disposed of in a drain, within the Chippewa National Forest, which led to the City of Cass Lake sewage treatment plant located just north of Fox Creek.

Use of Pond C was discontinued in mid-1980. The process was changed such that some wastewater was evaporated. Specifically, wastewater was directed into metal pans adjacent to the treatment plant, and excess steam from the boiler was run through the coils to heat and evaporate the wastewater. The solids were then placed in drums and hauled to waste disposal facilities out of Minnesota. The evaporation process continued in this fashion until the facility's closure in 1985.

Around 1971, two underground tanks were placed in operation in the wastewater disposal system for oil/sludge/water separation. In 1976, there were incidents of sludge disposal in a pit in the Southwest Area. The quantity of sludge disposed in this area is not known. During active operations at the wood-treatment facility (1957-1985), metal bands, concrete, scrap wood, and miscellaneous other wastes from wood-treating operations were deposited in an on-site landfill

area, located north and east of Pond C. Sawdust from the sawdust filters was also periodically deposited in the landfill area northwest of Pond C. Further, there were reports of disposal of empty containers that once contained water-soluble, wood-preserving chemicals in this on-site landfill area (MPCA 1995).

Two teepee burners were operated at the site to dispose of wood scrap. One of the burners was situated south of Pond C; the other burner was located north and west of Pond C. Also, it was noted in the previous Five-Year Reviews (MPCA 1995; EPA 2000) that a 3,000-gallon spill of creosote in 1976 was recovered by absorption with sawdust. The sawdust was later reportedly burned in a brush-burning project. No additional information has been located regarding this incident.

A wood-constructed conduit ran approximately 75 yards south of the railroad tracks from Pond A to Ponds B and C. A test trench (TT-2) was dug in 1984 near an apparent manhole with no bottom. Observations made during the test trench excavation noted a creosote-type odor, oily water and black and purple stained sand extending to depths below the water table.

Between 1957 and 1975, sludge from the wood-treating operations was transported to the Dump and periodically burned. Between 1957 and 1960, disposal from Pond A occurred almost daily at an estimated rate of 500 gallons per day. After 1976, sludge from operations at the facility was transported to waste disposal facilities outside of Minnesota. The Dump pit was excavated in 1986. The Dump area is currently used by the City to compost yard wastes, dispose of woody vegetation, and store City equipment.

Initial Response In September 1983, in response to groundwater sampling by the St. Regis Paper Company and sediment sampling by MPCA, EPA proposed the Site for inclusion on the NPL, with a hazard ranking of 53. Finalization of the listing occurred in September 1984 (EPA ID# MND057597940).

The MPCA and Champion International, negotiated two Response Orders by Consent (one for the former wood-treatment area (OU 1) and vault area (OU 2) and one for the Dump (OU 3)), issued in February 1985 (MPCA 1985a and 1985b). These documents outline the scope of the remedial investigations, feasibility studies, response action planning, response action implementation, routine operations, maintenance, and monitoring.

Basis for Taking Action Hazardous substances that have been released at the Site in each media include PCP, PAH's, PCB's, metals, and dioxin/furans.

Contaminants of Concern (COCs) A complete list of contaminants of concern will be developed at the conclusion of the ecological and human health risk assessments. This information will be provided in a supplement to this Five-Year Review to be completed later this calendar year. At this time, only dioxin contaminated house dust is a COC. Human impacts from exposure to dioxin include cancer and eye, skin, liver, kidney, and reproductive system damage.

IV. Remedial Actions

Remedy Selection The MPCA issued MEDDs (MPCA 1986) for the St. Regis Paper Company Site in March and July 1986. These documents approved response actions recommended in the Remedial Investigation and Alternatives Reports (Barr 1985) for protecting the public health, welfare, and the environment. Specifically, the March 1986 MEDD called for:

1. Installation of ten groundwater wells with granular activated carbon treatment, to pump and treat contaminated groundwater until acceptable contaminant levels are reached;
2. Construction of an on-site containment vault designed to Resource Conservation and Recovery Act (RCRA) requirements for the deposition of sludges and contaminated soil to be excavated during source removal activities;
3. Extension of the Cass Lake Community Water System to residents not currently serviced and potentially affected by groundwater contamination from the Site;
4. Long-term monitoring of the groundwater and surface water to determine the effectiveness of the groundwater extraction system;
5. Long-term monitoring of the on-site containment vault;
6. Long-term monitoring of the treated groundwater discharge and selected fish species for Site COCs, including one dioxin congener, to determine the effectiveness of the groundwater treatment system;
7. Long-term operation and maintenance of the groundwater extraction system; and
8. Long-term operation and maintenance of the on-site containment vault.

The July 1986 MEDD called for:

1. Long-term operation and maintenance of a contaminated groundwater gradient-control/extraction/ treatment system, to prevent migration of contaminated groundwater; and
2. Long-term monitoring to assess response action performance.

The response goals and objectives, as stated in the MEDD for OU1, were to:

1. Adequately protect the public against exposure to PCP, PAH, PCDD, and PCDF isomers through direct contact or ingestion of groundwater from private and public water supplies.
2. Adequately protect the public against exposure to PCP, PAH, PCDD, and PCDF isomers potentially released to surface water from the groundwater, and
3. Adequately protect and minimize damage to the environment from the migration of PAH, PCDD, and PCDF in the groundwater.

The MEDD's selected soil remedy was chosen to "virtually eliminate the release of additional PCP, PAH compounds, PCDD, and PCDF isomers from wastes located above the surface of the saturated zone" by removing "all sources (sludge and contaminated soil) of groundwater contamination" and securing them in an RCRA approved on-site containment vault. The selected groundwater remedy was chosen to "provide environmental benefit by the aggressive extraction of the PCP, PAH, PCDD, PCDF isomer plume that would eventually reduce these concentrations in the aquifer to" response action levels. This action would "prevent uncontrolled

migration of PCP, PAH, PCDD, and PCDF isomers northward toward the City of Cass Lake's water supply system."

Remedial Action Standards The MPCA MEDDs called for the removal of all sources, soil and sludge, of groundwater contamination from the Site and securing this contaminated material in the on-Site RCRA vault. The remedial action standards for groundwater extraction established by the MPCA MEDDs included operating the extraction system until contaminated groundwater is reduced to below response action levels of 1.01 mg/L for PCP, 28 ng/L for carcinogenic PAH, 300 ng/L for noncarcinogenic PAH, 1.3×10^{-7} ug/L for 2,3,7,8 TCDD, and the then current detection limits for PCDD and PCDF. Discharge to the Pike Bay channel was to meet then current Minnesota water quality standards outlined in a 1997 state-issued NPDES permit.

No toxicity factors were used in the generation of the MPCA MEDDs. In addition, no standardized risk assessment methodology was used in the MEDDs to evaluate the protectiveness of the remedy. As a consequence, no numeric remedial goals for soil were established.

Remedy Implementation Below is a summary of remedial actions:

In 1985, Champion extended the Cass Lake Community Water System to nearby residents identified as potentially impacted by groundwater contamination from the Site. In 1986, construction of a containment vault was completed in the Southwest Area, consistent with the design requirements of RCRA Subtitle C. However, only the visibly contaminated sludge and soil from the St. Regis Paper Company Site (37,500 cubic yards of material) and the Dump (4,500 cubic yards of material) was excavated and placed in the vault in 1986. Excavated areas including the treating plant area, the conduit to wastewater ponds, and Ponds A, B and C were then backfilled with local materials. These areas were covered with additional fill materials to establish the final grade. The source of the additional fill materials was the soil excavated to create the containment vault. Additional fill materials may have been obtained from the North Storage Area. The containment vault was closed (capped) in 1987 in a manner consistent with RCRA Subtitle C requirements. Long-term monitoring of the site containment vault has been performed since June 1987.

In 1986, ten groundwater extraction wells were installed at OU 1, and a treatment plant with granular activated carbon (GAC) was constructed on the St. Regis Paper Company Site to pump and treat contaminated groundwater. The groundwater extraction system was installed as a containment remedy rather than a restoration remedy. The extraction system began operating in January 1987, and it has continued operations since, with individual well pumping rates ranging between 5 and 20 gpm. The GAC system consists of three 20,000-pound units, operating in series. Treated effluent from the system discharges via an outfall to the channel between Cass Lake and Pike Bay in accordance with the EPA-approved O&M Plan. The extraction system was designed to capture the contaminated groundwater and will be operated until applicable cleanup objectives are achieved. The MPCA anticipated at least a 25-year operating life for the

groundwater extraction system.

Three groundwater extraction wells were installed at the Dump (OU 3) to pump contaminated groundwater to the GAC treatment facility located on the St. Regis Paper Company Site. These wells were operational as of December 1987, and have been pumping at rates ranging from 10 to 20 gpm since. This extraction system was designed to capture the contaminated groundwater and will be operated until acceptable groundwater concentrations are achieved.

On December 5, 1988, MPCA approved of the completion of all construction work with regards to the former operations area and Southwest Area. With regards to the Dump, MPCA approved the completion of all construction on January 10, 1989. The Response Action Final Reports state that soil clean-up was only to visual inspection.

In April 1988, Champion quitclaimed a significant portion of the Operations Area of the Site to the City of Cass Lake with the covenant that no well be drilled on the premises.

In January 1995, EPA issued a Unilateral Administrative Order (UAO) to Champion, pursuant to CERCLA Section 106 (EPA 1995). This UAO required Champion to, among other things, continue remedial actions undertaken pursuant to the two Response Orders by Consent (MPCA 1985). At that time, EPA assumed the lead oversight role (from MPCA) for the Site. Three operable units (OU's) were identified by EPA in the Order: OU 1 consisted of the northern portion of the operating area and was called "the wood treatment facility area", OU 2 consisted of the area of the RCRA Vault and was called "the contaminated soil containment vault area", and OU 3 was the Cass Lake "City Dump Area." Operable units 4 and 5 were later developed by EPA strictly for administrative purposes with no relationship to Site operations or remedial efforts. Over the next five years, operations were continued as directed by the 1995 UAO. Additionally, during this period, a number of investigations and reviews were performed, including development of a groundwater model by Barr Engineering Company (1996) and a Site Evaluation prepared for the EPA Office of Environmental Justice.

In March 1995, MPCA prepared a Five-Year Review report of the remedial action as required by CERCLA. The report evaluated existing data and stated that with the exception of one resident receiving bottled water "the connection to the Cass Lake municipal water supply system" eliminated exposure to contaminated groundwater from the Site via private wells. Secondly, the review stated that "the groundwater extraction/containment systems present at the Site will remain protective of public health and the environment with the implementation of the new" state applicable or relevant and appropriate requirements (ARARs). The review also stated that "the contaminated soil vault is still protective of human health and the environment." However, the document did not reach a conclusion on the protectiveness of the remedial action for contaminated soil because surface soil contaminant concentrations were unknown. The document required additional soil investigations to determine protectiveness of the soil remedy. In addition, the Five-Year Review recommended the installation of additional monitoring wells to assess whether groundwater capture measures remained protective of human health and the

environment.

After assuming regulatory lead for the Site through the 1995 UAO, EPA completed a second Five-Year Review of the Site in September 2000, in consultation with its support agency partners. The review states that, with the exception of one resident receiving bottled water, the connection to the Cass Lake municipal water system has eliminated residents' exposure to contaminated groundwater from the Site via private wells. The review again recommended that the new drinking water quality standards be implemented, stating that "[t]he groundwater extraction/containment systems present at the Site will remain protective of human health and the environment with implementation of the new water quality standards." Based on a review of the available data, and in consultation with its support agency partners, EPA recommended investigation of soil contamination and other media including surface water, sediment, and offsite groundwater, to assess whether other remedial actions remain protective of human health and the environment. This investigation was conducted by EPA in 2001.

Based on the findings of the 2001 investigation, including the LLB Superfund National Pilot Project Report and the EPA Environmental Justice Grant Report, and after consultation with its support agency partners, EPA issued a Unilateral Administrative Order in 2003 directing International Paper to conduct a Removal Site Evaluation and Supplemental Assessment at and around the St. Regis Paper Company Site to confirm the results of the 2001 investigation and further delineate the extent of soil contamination primarily regarding dioxin.

Based on the findings of the Removal Site Evaluation, and after consultation with its support agency partners, EPA issued another UAO in December 2003, directing certain removal action activities. The removal action began in 2004 and is continuing. OU #6 was developed in 2004 for the removal activities. During 2004, 3294 tons of contaminated soil was removed. In addition, during 2005 the BNSF Railway Co. was added as a potentially responsible party for the Site. In August 2005, EPA issued a separate CERCLA Administrative Settlement Agreement for a removal action at the BNSF property.

System Operation and Maintenance System Operation and Maintenance (O&M) is performed by IP in compliance with the 1995 EPA UAO. The primary components of the remedy addressed by O&M are the groundwater extraction/treatment and discharge system, the RCRA sub-Title C vault, and the monitoring well system. The IP contractor conducts routine daily inspections of the St. Regis facilities and submits quarterly progress reports to EPA and LLB. In addition to the quarterly progress reports, IP also prepares semi-annual monitoring reports.

Nine extraction wells operate at the eastern end of the Operations Area and three extraction wells operate in the Dump Area. Leachate from the Vault is also periodically pumped to the treatment plant. Through 2004, the groundwater extraction systems at the Site have captured approximately 980 million gallons of groundwater. The groundwater treatment system has removed approximately 23,300 lbs of PCP and 8,230 lbs of polycyclic aromatic hydrocarbon (PAH) compounds (i.e., creosote constituents) from the groundwater. Treated water is discharged

to the channel between Pike Bay and Cass Lake. This discharge is monitored monthly for PCP, quarterly for PAHs, quinoline, and one dioxin congener, and flow and pH are monitored continuously.

Long-term monitoring of the groundwater and surface water has been performed to monitor the effectiveness of the groundwater extraction systems at the Site since 1986. Ten monitoring wells in the Operations Area are sampled annually for PCP and PAHs in addition to surface water samples collected at both ends of the channel. Six monitoring wells are sampled annually for PCP and PAHs in the Dump Area.

Approximately 1,564,600 gallons of RCRA vault leachate have been removed since 1987. Seven monitoring wells surround the vault and are sampled semiannually for PCP and PAH compounds. In addition, the south production well of the nearby LLB fish hatchery southwest of the Vault is tested annually for PCP and PAHs.

The first Five-Year Review and the second Five-Year Review concluded that the groundwater extraction and treatment system was protective of human health and the environment with the incorporation of current drinking water standards consistent with State and Tribal water quality standards.

Through 2004, approximately 143 gallons of light non-aqueous phase liquid (LNAPL) product have been recovered at the Site in accordance with a 1992 Product Recovery/Reuse Plan. Most of the LNAPL was recovered from recovery wells located at the Dump.

V. Progress Since the Last Review

Recommendations and findings from the last review: EPA's 2000 review recommended that water quality standards for discharge and monitoring of treated water be updated. The 2000 review also recommended a field investigation of soil, sediment, surface water, and groundwater, and recommended the installation of at least one additional monitoring well nest. The review stated that "the groundwater extraction/containment systems present at the Site will remain protective of human health and the environment with implementation of the new water quality standards." However, the review withheld judgement on the protectiveness of the remedy, with respect to site-related soil, pending sampling results.

Status of recommendations and follow-up actions from last review: All of the recommendations listed in the 2000 five-year review are currently being addressed. However, the final resolution of some issues will not be made until later in this calendar year when the human health and ecological risk assessments and a supplement to this 5-Year Review are completed.

Soil, Sediment, Surface Water and Ground Water Analyses:
Soil, sediment, surface water and groundwater sampling was conducted by EPA and LLB in 2001. Confirmatory soil samples were then taken in 2003 by International Paper (IP), a

responsible party, under a Unilateral Order from EPA. The results of those sampling events confirmed that the Site soil was contaminated with dioxin at levels exceeding EPA's preliminary RAL under EPAs Dioxin Policy. A UAO was issued to IP in December 2003 to remove shallow soils in excess of 1 ppb for dioxin. This removal, under OU 6, began in 2004 and is ongoing. Screening level human health and ecological risk assessments were conducted by EPA utilizing the results of the 2001 sampling data. These assessments determined that baseline human health and ecological risk assessments would be necessary. In August 2004, EPA issued IP another UAO to conduct extensive baseline human health and ecological risk assessments. Sampling for the assessments included soil, sediment, surface water, house dust, plants, fish, and land and fresh water invertebrates from both the Site and the surrounding area. Pathways studied include wind erosion, inhaled dust, soil vapor migration, surface water runoff, groundwater migration, and particulate emissions. Human receptors include residents, recreational users, utility workers, and native americans. The results of the risk assessments will be used to determine the protectiveness of the current remedy to human health and the environment and the need for additional remedial actions.

A portion of the risk sampling results, pertaining to house dust, have already been evaluated. It was determined that of 10 homes sampled, 6 exceeded risk-based screening levels. A Proposed Plan for Interim Remedial Action regarding the house dust was released on May 30, 2005. A public meeting was held on June 7, 2005 to discuss the proposed plan. An Interim Record of Decision for actions to be taken to remove contaminated dust from nearby homes is under development. OU7 has been developed by EPA to define the area of remedial action.

Groundwater Extraction System:
The water quality standards and guidelines used for the discharge of treated water from the groundwater extraction system have been updated, with the assistance of the Leech Lake Band and the Minnesota Pollution Control Agency, to reflect current standards. In addition, a report on the effectiveness of the ground water extraction system, completed by EPA in July 2005, recommended changes to the pumping rates of some wells of the extraction system. These changes were given to IP on August 15, 2005, to incorporate into the O&M Plan. IP will be tasked to make the necessary modifications to the QAPP and O&M Plan to update the operation of the groundwater extraction system.

Groundwater Monitoring System:
A report on the effectiveness of the ground water monitoring system was completed by EPA in July 2005. The report highlighted gaps in our knowledge of the contaminant plume that need to be answered by constructing additional monitoring wells. These wells will provide information on contaminant migration and plume extent. EPA provided the report to IP in August 2005 for implementation.

VI. Five-Year Review Process

Administrative Components For the current report the Remedial Project Manager (RPM) established a review schedule. Its components included:

- Community Notification
- Document Review
- Data Review
- Site Inspections
- Interviews
- Five-Year Review Report Development and Review

Community Notification Activities to involve the community in the five-year review process were initiated in February 2005 with the announcement of the review process during one of the regularly scheduled public meetings in Cass Lake, MN. Letters concerning the process were mailed to the community in July 2005.

Document Review This five-year review consisted of a review of relevant documents including O&M records, evaluation reports and groundwater sampling data (See Attachment 2). Groundwater monitoring standards, as listed in the current O&M Plan will require modification to reflect the new requirements.

Data Review The major information reviewed by the RPM, with the assistance of the LLB and MPCA, in order to generate this report include:1) annual and semiannual reports submitted by IP, from 1988 - present, regarding the groundwater extraction system, 2) the results of the sampling data collected as a part of the risk assessments, 3) the study conducted by EPA (2005) on the effectiveness of the groundwater extraction system, 4) the MPCA MEDDs and the Response Action Final Reports, 5) the Data Evaluation Report, generated at the conclusion of the 2001 sampling event, and 6) the final report, generated by IP, at the conclusion of the 2003 sampling event. A more complete listing of the documents reviewed is contained as an attachment to this report.

Site Inspections The RPM conducts informal inspections of the Site on approximately a quarterly basis. He has been accompanied, on many occasions, by the Environmental Director of the LLB, the project manager from MPCA, the Manager of Environmental Projects of IP, the Cass Lake Mayor and city council members, and members of the community. The EPA RPM, with the assistance of the LLB and MPCA, continues to review and examine the groundwater pump-and-treat and monitoring systems in order to confirm that the installations are functioning as designed.

Interviews Interviews with individuals have been conducted on a regular basis regarding the operations being conducted as a response to the previous Five-Year Reviews. Public meetings regarding the removal and remedial actions at the Site have been scheduled, on average, quarterly

in Cass Lake. Public availability sessions, informal lunch meetings, door-to-door interviews, and presentations at City Council meetings have been conducted on many occasions since the last Five-Year Review.

Five-Year Review Report Development and Review The planned schedule for the development and finalization of this Five-Year Review is as follows: 1) development of first draft to be completed by July 15, 2) internal review of first draft complete by July 12, 3) completion of second draft for Agency Partners by August 12, 4) one month review by Partners to be completed by September 16, and 5) finalization of document by September 29, 2005.

VII. Technical Assessment

Question A: Is the remedy functioning as intended by the decision documents?

The review of documents, new sampling information, applicable or relevant and appropriate requirements (ARARs), risk assumptions, and the results of the site inspections indicate that portions of the remedy are functioning as intended by the 1986 MEDDs.

The excavation and disposal of soils and sludges from OUs 1, 2, and 3 achieved the remedial objective of the MEDD (as defined in the final reports to MPCA) to remove contaminants in soils to a visual inspection level. However, based on the soil sampling results of 2001, 2003, and 2004, unacceptable risks are still present to nearby residents from on-Site soil. This contaminated soil is being addressed by soil removal actions, under OU 6, begun in 2004. Tribal ARARs for dioxin contamination in soil were considered at this removal stage, but the Agency deemed the need for action was such that it was not practicable to seek to attain any potential ARARs for the removal actions.

Based upon the results of house dust sampling in support of the risk assessments, 6 of 10 homes sampled had exceedences of site-related contaminants. An Interim ROD is being developed to address the house dust risks at OU 7. There were no State or Tribal ARARs that applied to the house dust removal Proposed Plan.

Additional remedial actions may also be necessary once the full results of the human health and ecological risk assessments are available. At that time, if needed, the LLB and MPCA will be asked to list ARARs for a final ROD. EPA will then analyze those potential ARARs to determine which apply to whatever remedy is to be performed.

The ongoing component of the cleanup is groundwater contaminant containment and restoration by the pump-and-treat system. Operation and maintenance of the groundwater pump and treat system has generally been effective. However, individual wells have not operated at their design capacity, causing possible bypass of contaminated groundwater around the system. This will be addressed by EPA through the recommended changes to the system as discussed in Section V above. Optimization of the system is needed in order to meet its design specifications. Revisions to the monitoring of surface and groundwater are needed to confirm the extent of the

groundwater plume. In addition, updates to the discharge monitoring portion of the O&M plan will also be made to reflect current requirements.

Additional institutional controls are needed to prevent: 1) the use of abandoned water wells, 2) the drilling of new water wells, and 3) contact with contaminated soil.

The RCRA sub-Title C vault is currently operating as designed, based on monitoring information, after operational changes made by IP to extract vault leachate more regularly.

Question B: Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives (RAOs) used at the time of the remedy selection still valid?

A significant amount of new information, generated as a result of the human health and ecological risk assessments, is being evaluated to answer this question. The results will be contained in a supplement to this document to be generated later this calendar year. Exposure assumptions, cleanup levels, and RAO's could potentially change based on this new data.

Question C: Has any other information come to light that could call into question the protectiveness of the remedy?

To date, the soil evaluation and the house dust evaluation have confirmed that the soil and sludge excavation portion of the remedy was not protective. Changes to the groundwater monitoring and extraction system will determine the protectiveness of the groundwater remedy. Additionally, more information may come to light at the conclusion of the human health and ecological risk assessments.

Technical Assessment Summary

According to the data reviewed and the Site inspections, the remedy is functioning as intended with respect to the RCRA vault at OU 2. With respect to nearby residents, the discovery of soil above RALs and house dust in excess of EPA risk-based limits, revealed that this element of the remedy was not protective.

Generally, the groundwater extraction systems at OUs 1, 2, and 3 have been operating as intended in the EPA UAO and O&M Plan. However, based on a new EPA study (EPA 2005), some wells at OU 1 have been operating consistently below their design capacity, allowing for possible bypass of contaminants to occur. Although OU 3 has been effectively capturing the contaminant plume for the past 3 years, some bypass has occurred in previous years. Additional monitoring wells are also needed to confirm gradients and contaminant plume extent.

Additional information regarding other possible Site-related risks to human health and the environment is needed to complete a more comprehensive assessment. This additional information will be provided by the human health and ecological risk assessments. The results of the assessments will be contained in a supplement to this document.

No toxicity factors were used in the generation of the MPCA MEDDs. No standardized risk assessment methodology was used in the MEDDs to evaluate the protectiveness of the remedy. Consequently, no soil contamination remediation goals were established.

VIII. Issues

Table 3: Issues

Issues	Affects Current Protectiveness (Y/N)	Affects Future Protectiveness (Y/N)
Shallow site soil over RALs	Y	Y
Extraction system and monitoring well improvement	Y	Y
Update discharge/monitoring standards	Y	Y
Complete evaluation of human health risks	Y	Y
Complete evaluation of ecological risks	Y	Y
Contaminated house dust	Y	Y
Institutional controls needed for both soil and groundwater	Y	Y

IX. Recommendations and Follow-up Actions

Table 4: Recommendations and Follow-up Actions

Issue	Recommendations and Follow-up Actions	Party Responsible	Oversight Agency	Milestone Date	Affects Protectiveness (Y/N)	
					Current	Future
Shallow site soil above RALs	Continue removal operations	PRPs	EPA/LLB/ MPCA	December 2005	Y	Y

Issue	Recommendations and Follow-up Actions	Party Responsible	Oversight Agency	Milestone Date	Affects Protectiveness (Y/N)	
					Current	Future
Extraction System and Monitoring Well Improvement	Complete extraction/ monitoring system, implement improvements	PRPs	EPA/LLB/ MPCA	Winter 2005	Y	Y
Update Discharge monitoring	Require implementation	PRPs	EPA/LLB/ MPCA	Winter 2005	Y	Y
Additional human health risks?	Implement changes, if necessary, pending results of risk assessment	PRPs	EPA/LLB/ MPCA	Fall 2006	Y	Y
Additional ecological risks?	Implement changes, if necessary, pending results of risk assessment	PRPs	EPA/LLB/ MPCA	Fall 2006	Y	Y
Contam. House Dust	Implement actions to reduce dust.	PRPs	EPA/LLB/ MPCA	Fall 2005	Y	Y
Develop Institutional controls plan	Drilling restriction needed in plume area. Ensure all wells plugged. Easement on contam soil properties	PRPs	EPA/LLB/ MPCA	Spr 2006	Y	Y

X. Protectiveness Statements

Short-term Protectiveness The remedy continues to be protective with regard to drinking water due to the connection of City of Cass Lake residents to municipal water. The remedy also continues to be protective regarding the RCRA sub-Title C Vault. The protectiveness of the site groundwater remedy could not be determined because the required modifications have not yet been implemented. The remedy is not protective of human health with regards to site soil. Surface soil contamination exceeds Removal Action Levels (RALs) in some on-site areas and there are insufficient institutional controls to prevent human exposure. House dust contamination has been detected in living areas of homes and no controls are in place to prevent human exposure. Also, additional information from the ongoing human health and ecological risk assessments is needed to determine if there are any other human health protectiveness issues. Likewise, the ecological risk assessment results are needed in order to determine the protectiveness of the remedy to ecological receptors. This statement will be updated in a supplement to this 5-Year Review after that information is available later this calendar year.

Long-term Protectiveness The long-term protectiveness of the soil remedy is dependent upon the continued removal of contaminated soil begun in 2004 and any other actions that may be necessary based on the results of the risk assessments. The long-term protectiveness of the groundwater remedy cannot be determined until modifications to the system are completed. In addition, adequate institutional controls are necessary to prevent contact with contaminated soil and groundwater. Some known abandoned water wells need to be plugged and a drilling exclusion zone needs to be established in the plume area. Extraction effectiveness will be verified by continued monitoring of the groundwater including modifications as needed, and analyzing the extent of the wellfield capture zone. The groundwater pump and treat portion of the remedy is expected to be protective of human health and the environment once groundwater cleanup standards are attained. Additional statements on long-term protectiveness may be added pending the results of the risk assessments.

XI. Next Review

An amendment to this Five-Year Review will be completed after the results of the risk assessments are finalized. The next five-year review for the St. Regis Paper Company Site will be conducted in 2010, and the date on which that report will be due is September 29, 2010.

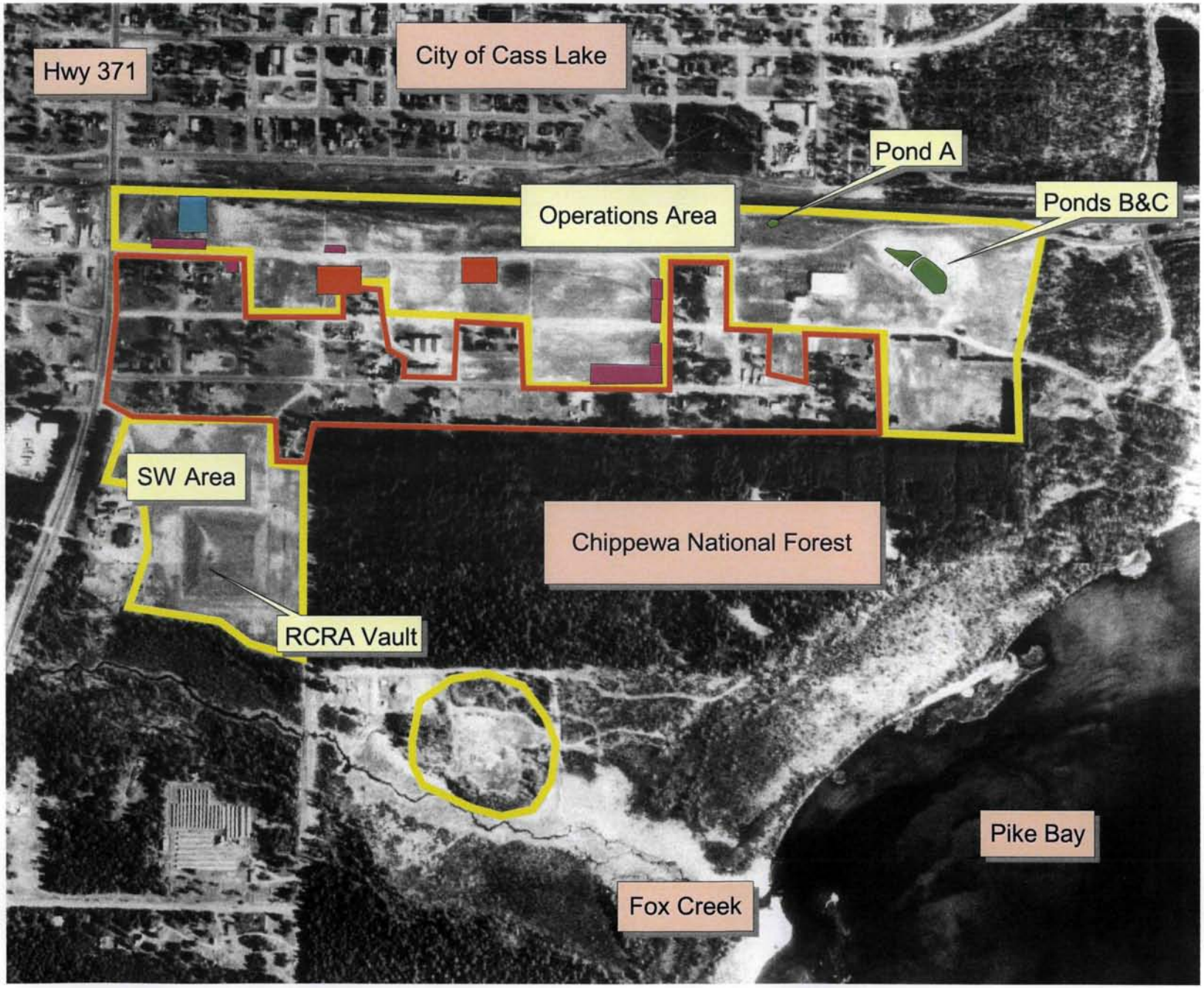
Attachments

1. Site Map
2. List of Documents Reviewed

Attachment 1

St. Regis Paper Company Site

Cass Lake, Minnesota



Attachment 2

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